

Access to health in the periphery of Peru: a systematic review

Acceso a la salud en la periferia del Perú: una revisión sistemática

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Marialita Catalina Ramírez Preciado

<https://orcid.org/0000-0003-3714-561X>

mramirez@unab.edu.pe

Universidad Nacional de Barranca. Barranca, Peru

Nelly Apolinar Gonzáles

<https://orcid.org/0000-0002-4969-2680>

napolinar@uladech.edu.pe

Universidad Católica Los Ángeles de Chimbote. Chimbote, Peru

Eber Wilfredo Zavaleta Llanos

<https://orcid.org/0000-0003-1451-4283>

eber.zavaleta@usanpedro.edu.pe

Universidad San Pedro. Chimbote, Peru

Manuel Guzmán Palomino Márquez

<https://orcid.org/0000-0002-7578-7544>

manuel.palomino@usanpedro.edu.pe

Universidad San Pedro. Chimbote, Peru

Doraliza Correa Huaman

<https://orcid.org/0000-0002-3723-7277>

doralizac@gmail.com

Hospital III-Essalud-Chimbote. Chimbote, Peru

Abstract

Access to health services in rural communities in Peru faces significant gaps that affect the equity and quality of care. These disparities are driven by geographic, socioeconomic, and cultural factors, limiting the capacity for care in peripheral areas. This article aims to analyze the gaps in access to health services in rural communities in Peru and evaluate the strategies implemented to improve health coverage. It seeks to identify the main barriers and explore the most effective interventions. A systematic review of the literature was conducted using five key academic databases: PubMed, Scopus, SciELO, LILACS, among others. The initial search yielded 73 articles, of which 40 were selected for a full review. Finally, 20 studies were included in the analysis, covering strategies such as infrastructure strengthening, staff training, and telemedicine. The main barriers identified include the lack of adequate health infrastructure, the shortage of trained personnel, and limited technological connectivity. Although some solutions have been implemented, such as mobile brigades and telemedicine, the lack of resources remains an obstacle. Improving healthcare coverage in rural areas requires a comprehensive approach that includes inclusive public policies, better infrastructure, ongoing training, and the effective use of technologies such as telemedicine. This study offers recommendations for reducing inequalities in access to healthcare.

Keywords: access to healthcare, rural communities, healthcare coverage gaps

Resumen

El acceso a los servicios de salud en las comunidades rurales del Perú enfrenta brechas significativas que afectan la equidad y la calidad de la atención. Estas disparidades son impulsadas por factores geográficos, socioeconómicos y culturales, limitando la capacidad de atención en áreas periféricas. Este artículo tiene como objetivo analizar las brechas en el acceso a los servicios de salud en las comunidades rurales del Perú y evaluar las estrategias implementadas para mejorar la cobertura sanitaria. Se busca identificar las principales barreras y explorar las intervenciones más efectivas. Se realizó una revisión sistemática de la literatura utilizando cinco

bases de datos académicas clave: PubMed, Scopus, SciELO, LILACS, entre otras. La búsqueda inicial arrojó 73 artículos, de los cuales 40 fueron seleccionados para una revisión completa. Finalmente, 20 estudios fueron incluidos en el análisis, los cuales abarcan estrategias como el fortalecimiento de la infraestructura, la capacitación del personal y la telemedicina. Las principales barreras identificadas incluyen la falta de infraestructura sanitaria adecuada, el déficit de personal capacitado y la limitada conectividad tecnológica. Aunque se han implementado algunas soluciones, como brigadas móviles y telemedicina, la falta de recursos sigue siendo un obstáculo. Para mejorar la cobertura sanitaria en las zonas rurales, se requiere un enfoque integral que contemple políticas públicas inclusivas, una mejor infraestructura, capacitación continua y el uso efectivo de tecnologías como la telemedicina. Este estudio ofrece recomendaciones para reducir las desigualdades en el acceso a la salud.

Palabras clave: acceso a la salud, comunidades rurales, brechas de cobertura sanitaria

Introduction

In Peru, rural communities face significant challenges in accessing healthcare services, resulting in disparities in care and the quality of life for their inhabitants. These areas, characterized by geographic isolation and limited resources, exhibit a high prevalence of preventable and chronic diseases, exacerbated by a lack of adequate health infrastructure and specialized medical personnel. Furthermore, cultural and socioeconomic factors, such as a lack of health education and poverty, further aggravate this situation.

Recent studies have documented these inequities. For instance, an analysis conducted by Candia (2024) identifies geographic, economic, and cultural barriers that limit access to health services in rural areas of Peru. Similarly, the National Institute of Statistics and Informatics (INEI, 2021) reports inequalities in access to basic services, particularly in rural areas where populations struggle to obtain adequate care. The Organisation for Economic Co-operation and Development (OECD, 2025) highlights gaps in the distribution of health services and recommends improving access in peripheral regions. Additionally, the Ministry of Health (MINSA, 2023) underscores deficiencies in health infrastructure and the urgent need to expand coverage in rural communities.

These evidences underscore the urgency of addressing health access inequalities in Peru's rural communities. It is essential to implement effective strategies that consider the specificities of these areas, such as the decentralization of services, strengthening health infrastructure, and training healthcare personnel. Moreover, promoting health education and community participation is crucial to ensure comprehensive and sustainable care.

This article aims to analyze the existing gaps in health access in rural communities of Peru and evaluate the strategies implemented to improve coverage in these areas. Through a systematic literature review, this study seeks to identify the main barriers faced by these communities and the most effective interventions to overcome them. The results of this study will contribute to the formulation of public policies aimed at reducing inequalities in health access and improving the quality of life for rural populations in Peru.

Methodology

This systematic review was developed from an exhaustive search in key academic databases, such as PubMed, Scopus, SciELO, and LILACS, as well as in electronic repositories specialized in public health. The search focused on articles analyzing health access in rural communities of Peru, with particular emphasis on gaps in health coverage and improvement strategies implemented in these contexts. The terms used in the search were: "health access AND rural communities AND Peru AND gaps AND strategies."

To ensure the relevance and timeliness of the studies, the search was limited to articles published between 2015 and 2025, prioritizing those examining health coverage in rural areas and the effectiveness of strategies in contexts similar to that of Peru.

The following inclusion criteria were established for study selection: Original studies addressing access to health services in rural communities of Peru; articles providing relevant information on gaps in health coverage and access strategies implemented in these areas; studies published between 2015 and 2025; research focused on rural and peri-urban communities in Peru, with special attention to the general population or vulnerable subgroups; peer-reviewed articles with an adequate methodological design ensuring the validity of the results.

Studies that did not meet the following criteria were excluded: Research conducted in urban contexts or in countries other than Peru; articles that did not present relevant data on health access or coverage gaps in rural communities; studies that did not discuss access improvement strategies or lacked empirical evidence regarding health access; articles that did not meet established methodological quality standards or had not been peer-reviewed.

The initial search yielded a total of 73 articles. After applying the inclusion and exclusion criteria, 40 articles were selected for full review. Of these, 8 studies were excluded, either for not specifically addressing health access

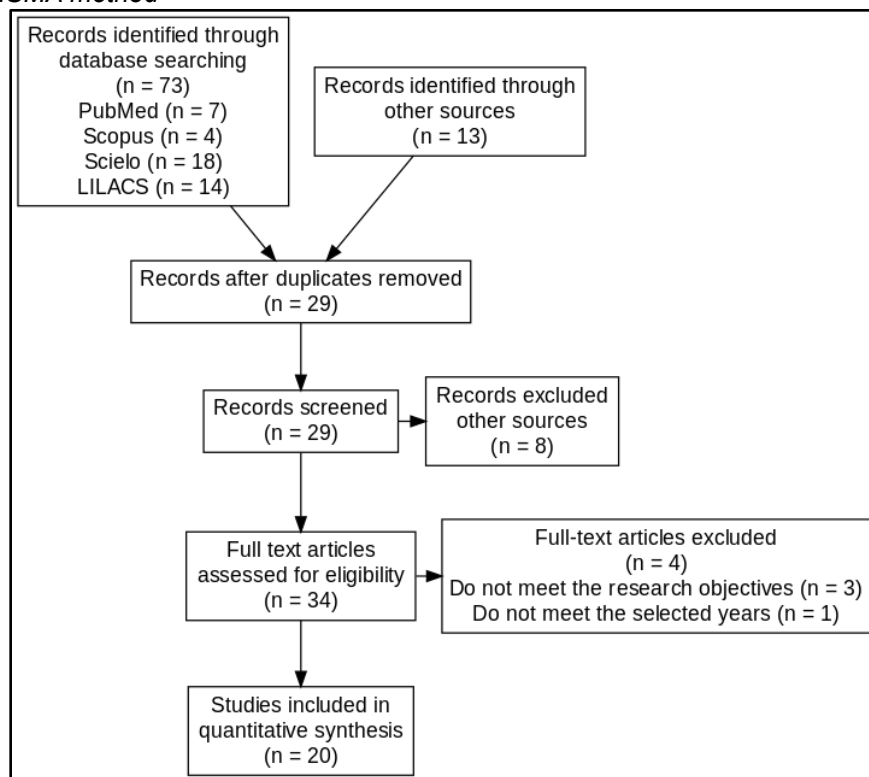
gaps in Peruvian rural communities or for lacking relevant information on the implemented strategies. Ultimately, 20 studies met the established criteria and were included in the review for analysis and discussion. The selected studies include quantitative research addressing the issue of health access in rural areas.

To ensure the quality and validity of the included studies, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) tool was employed to evaluate each article. The assessment focused on key aspects such as study design, sampling, internal validity, and methods used for data collection and analysis. This process ensured that the selected studies were methodologically sound and that their conclusions could be used to substantiate discussions on health access gaps and strategies in rural communities of Peru.

Data extraction was conducted following a systematic approach, gathering key information from the selected studies. The main variables extracted included: study characteristics such as study type, geographic location, and year of publication; information about the studied population, including sample size, age groups, and socioeconomic characteristics of participants; identified gaps in health coverage in rural communities; strategies implemented to improve access to health services; and results and conclusions providing relevant information on improving access to health services in rural areas of Peru.

The synthesis of results was conducted through thematic analysis, identifying recurring patterns and trends in the gaps and strategies to improve health access in rural communities of Peru. The results were organized into tables and presented through descriptive narratives that contextualize the implications for public health policies in the country. This analysis provided a comprehensive view of the existing difficulties and the measures adopted to improve health coverage in rural areas.

Figure 1
Diagram of the PRISMA method



Limitations

Some excluded studies may have contributed useful data but did not meet the inclusion criteria, such as the rural context or focus on health disparities.

Limitation in study designs: The selected studies may not have encompassed all possible methodologies (such as longitudinal studies or controlled interventions), limiting a comprehensive understanding of improvement strategies.

Some of the included studies may exhibit design biases, such as a lack of randomization or selection bias, which could affect the external validity of the findings.

Variety in measurements: Differences in how "health access gaps" were defined and measured across studies may have impacted the consistency of the results.

The analyzed studies may not have adequately considered the limited resources for implementing improvement strategies in rural communities, which could pose a barrier to the effectiveness of interventions.

Results and discussion

The review of studies on access to health services in rural areas of Peru reveals that inequalities in healthcare are largely the result of a series of structural barriers, including geographic, socioeconomic, cultural, and political factors. These barriers are not merely technical or circumstantial; they are deeply intertwined with the historical exclusion and marginalization of rural areas in Peru. Various studies confirm that the lack of adequate infrastructure, a deficit of trained personnel, and limitations in service coverage are crucial factors perpetuating inequality in access (Candia, 2024; García, 2022; Ríos, 2023; Muñoz, 2020; Vásquez-Paredes, 2025). The unequal distribution of resources and the centralist approach of public policies have generated a healthcare system that continues to leave behind the most vulnerable rural populations.

For instance, Candia (2024) points out that geographic barriers, such as the distance from health centers and the lack of adequate transportation, hinder residents of rural areas from accessing basic services. These obstacles compound economic and cultural factors that, as noted by Huerta (2022), further limit access to healthcare. The inability of the health system to adapt to the cultural and linguistic diversity of rural communities is a deficiency highlighted in studies by Castro (2022) and Sánchez (2022), which emphasize the importance of intercultural training for health personnel and the need for awareness of local particularities to improve service utilization.

Technological innovations, such as telemedicine and mobile brigades, have been proposed as solutions to increase coverage in rural areas. However, these advancements have not been without challenges. Salazar (2021) and Cabrera (2021) document that although telemedicine has extended the reach of services, the lack of connectivity in many regions remains a significant obstacle. In this regard, the implementation of technological solutions must be accompanied by policies that strengthen technological infrastructure in rural areas (García, 2022; Muñoz, 2020). The proposal to use mobile brigades has proven effective in hard-to-reach areas, but, as noted by Ríos (2023), a lack of resources and insufficient trained personnel limit their impact.

It is essential to highlight that public health policies, although they have advanced in some aspects, have not succeeded in eradicating the profound inequalities between rural and urban areas. Chavarria (2024) emphasizes that despite efforts to promote universal health coverage, public policies still fail to effectively encompass all rural populations, particularly those farther from urban centers. Health policies must, therefore, incorporate an inclusive approach that considers the geographic, socioeconomic, and cultural differences defining access to health services in rural communities (Vásquez-Paredes, 2025; Candia, 2024).

On the other hand, the turnover of medical personnel in rural areas remains a crucial issue. Bendezu-Quispe (2020) notes that the high turnover of physicians participating in the SERUMS (Rural and Marginal Urban Health Service) contributes to a lack of continuity in care and limits service quality. This phenomenon is not isolated and reflects the poor working conditions faced by healthcare professionals in rural areas. Policies must focus on improving working conditions and training personnel to ensure stability and continuity of service in rural communities (Cabrera, 2021; Ríos, 2023).

The literature review also reveals the importance of health education as a key tool for improving service utilization in rural areas. Arana (2024) argues that health education programs positively impact service utilization, but it is crucial that these programs adapt to the cultural and socioeconomic needs of rural communities. Moreover, the inclusion of local health agents, as suggested by Guerrero (2024), could enhance the acceptance of services and promote a shift in attitudes toward the formal health system.

In terms of infrastructure, studies by García (2022) and Lozano (2023) concur that healthcare infrastructure in rural areas of Peru remains insufficient to meet the population's needs. Deficiencies in infrastructure not only affect the availability of basic services but also limit the quality of care and the capacity to respond to emergencies. Significant investment is needed to improve infrastructure, equip health centers, and ensure ongoing training for personnel (Castro, 2022; García, 2022).

Furthermore, disparities in access to health insurance are a determining factor in healthcare coverage in rural areas. Quiñones (2023) and Sánchez (2022) document that in rural areas, especially among indigenous communities, there is a significant disparity in access to health insurance, which further restricts equity in healthcare. Improving insurance coverage must be a priority to ensure universal access to health services in rural areas (Chavarria, 2024).

In conclusion, the literature review reveals that access to health services in rural areas of Peru remains a complex and multidimensional challenge. Public policies must go beyond the implementation of technological or infrastructural solutions and should incorporate a comprehensive approach that considers the socioeconomic, cultural, and political factors perpetuating inequality. Through a more inclusive and sustainable approach, it will be possible to overcome the barriers that limit access to health services in rural communities and move toward a more equitable healthcare system for all.

The systematic review of studies on access to health services in rural communities of Peru highlights a series of persistent gaps that hinder equity in access and the quality of healthcare. These gaps are related to geographic, economic, cultural, and political factors, which require a comprehensive and critical approach. Below are the main conclusions regarding the identified gaps and the recommended strategies for improving coverage in these communities.

1. Gaps in infrastructure and trained personnel

One of the most evident gaps is the deficiency in healthcare infrastructure in rural areas, particularly in the Andean and Amazonian regions, where health centers are insufficient and lack the necessary equipment to provide quality care (MINSA, 2023; García, 2022). This deficit is exacerbated by the lack of trained personnel, who not only are scarce but also face precarious working conditions that foster high turnover and discontinuity in medical care (Bendezu-Quispe, 2020). This lack of continuity negatively impacts service quality and user satisfaction, reinforcing disparities between urban and rural areas (Ríos, 2023).

2. Cultural and socioeconomic gaps

Cultural and linguistic barriers also pose a significant obstacle to accessing health services in rural areas. Many communities, especially in the Andean and Amazonian regions, have their own languages, customs, and traditions that are not always understood or respected by healthcare professionals, affecting the quality of care received (Castro, 2022; Huerta, 2022). Additionally, socioeconomic inequalities and the lack of financial resources among rural families hinder access to health services, particularly regarding insurance coverage and the purchase of medications (Sánchez, 2022; Quiñones, 2023).

3. Technological and connectivity gaps

The lack of connectivity is one of the most critical technological gaps in rural areas, as it prevents solutions such as telemedicine from being implemented effectively. Although telemedicine has proven to be a promising strategy for improving access to mental health and specialty services, the limited technological infrastructure and connectivity in many rural areas represent barriers that reduce its effectiveness (Vásquez-Paredes, 2025; Salazar, 2021).

4. Strategies to overcome gaps

To overcome the aforementioned gaps, comprehensive and sustainable strategies must be implemented that include both technological innovations and structural and cultural improvements. Among the most relevant strategies are:

Strengthening healthcare infrastructure: investing in the construction and improvement of rural health centers is crucial to ensure that communities can access quality basic services. This should be accompanied by improvements in equipment and the supply of medications, as noted by García (2022) and Lozano (2023).

Training healthcare personnel: to address the high turnover of personnel, it is necessary to offer economic incentives and improve working conditions in rural areas. Moreover, continuous training for personnel on both medical and cultural issues is essential to ensure that healthcare professionals are better prepared to serve rural populations (Bendezu-Quispe, 2020; Guerrero, 2024).

Promoting telemedicine and mobile brigades: while telemedicine and mobile brigades are promising solutions, it is essential to ensure that adequate technological infrastructures exist and that public policies promote connectivity in rural areas. These solutions should be implemented alongside training personnel in the use of technologies and improving communication networks (Cabrera, 2021; Ríos, 2023).

Improvements in health insurance coverage: the lack of access to health insurance in rural areas must be addressed through policies that guarantee universal coverage and the availability of insurance in all communities, particularly among the most vulnerable populations, such as indigenous communities (Quiñones, 2023; Chavarria, 2024).

Intercultural training: it is essential that training programs for healthcare personnel include an intercultural approach that respects local languages and customs. This will help build trust in health services and improve the adoption of health practices among rural communities (Castro, 2022; Huerta, 2022).

5. Inclusive and sustainable public policies

Finally, public policies must be more inclusive and sustainable, aimed at reducing structural inequalities between urban and rural areas. These policies should be comprehensive, addressing not only infrastructure and

training but also promoting health equity through intersectoral actions that engage local governments, non-governmental organizations, and the community itself (Salazar, 2021; Guerrero, 2024). Creating sustainable health models that can adapt to the specific conditions of each region will be key to improving coverage and ensuring access to health services for the entire population.

Conclusions

This study reveals that the gaps in access to health services in rural communities of Peru are deeply rooted in the lack of adequate infrastructure, trained personnel, and the persistence of socioeconomic and cultural barriers. The implementation of technological solutions such as telemedicine and mobile brigades has shown progress; however, limited connectivity and resources remain significant obstacles. Urgent transformation in public policies is needed, focused on improving infrastructure, training personnel, and ensuring insurance coverage in these areas. The inclusion of an intercultural approach and the sustainability of solutions must be prioritized to reduce inequalities. Ultimately, the need for a comprehensive approach tailored to local realities is emphasized to ensure equitable and sustainable health coverage in rural communities of Peru.

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